WF02 - Replacing Bearing Covers for Wheel Bearings on Rear Axle (Workshop Campaign)

Vehicle Type: **918 Spyder**

Model Year: **2015**

Concerns: **Bearing covers for wheel bearings on rear axle**

Information: This is to inform you of a voluntary Workshop Campaign on the above-mentioned vehicles. **Lightweight wheel bearings were installed on the rear axle of the 918 Spyder due to the performance-oriented design of the chassis.**
Internal tests have shown, however, that the bearing covers on these lightweight wheel bearings can bend out of shape when the vehicle is driven aggressively, e.g. when driving on a race circuit.

This puts increased strain on the wheel bearings and as a result, their durability cannot be guaranteed over the service life of the vehicle. The wheel bearings can also start to make noise.

Action Required: Vehicles with a **mileage of less than 12,000 miles (20,000 km)** that are **not used for race track driving**:

- Replace bearing covers for wheel bearings on the rear axle.

Vehicles with a **mileage of 12,000 miles (20,000 km)** or higher or vehicles that have already been **driven on a race track**:

- Replace bearing covers for wheel bearings **and** wheel carrier module with wheel bearings on the rear axle.

Information
Due to the design-related extra-rigid joint between the lightweight wheel bearing and the wheel carrier, the wheel bearing is only available as part of the wheel carrier module.

Information
The vehicle must be checked for defects and damage (damage to paintwork, missing parts, etc.) **each time** it is handed over, transferred or delivered. Confirmation that the vehicle is in good condition or details of any damage to the vehicle must be documented and archived for feedback purposes.

Service Level: **This campaign must be carried out by a Service Level 2 Porsche Dealers.**

Service Level 0 or 1 Porsche Dealers are **not** authorized to carry out this campaign.

In accordance with the service concept for the 918 Spyder, the vehicle must be transferred to the nearest Service Level 2 Porsche Dealer in order to carry out this campaign.

If the vehicle should require transport from your dealership to a Level 2 Dealer and transportation has not previously been arranged by the 918 Client Relationship Team, you should contact Roadside Assistance at 1 (844) 918-SPYD (7793) to facilitate the transfer.

Information on invoicing for the transfer of the vehicle can be found under Attachment "B" ⇒ *Technical Information 'AF0100 Invoicing'* at the end of this document.

Information

The vehicle may be assigned to several campaigns for which there may be an overlap between some of the steps to be completed in order to carry out the required preliminary and subsequent work.
Before carrying out this campaign, it is important therefore to check whether the vehicle in question is also affected by one or more of the campaigns specified below:

- WF01 Workshop campaign – Replacing holder for brake line on rear axle (Service Level 1)
- WF03 Workshop campaign – Tightening threaded joint securing connecting links on rear axle (Service Level 1)
- WF04 Workshop campaign – Replacing oil intake pipe (Service Level 1)

If the vehicle is assigned to one or more of the specified campaigns, the campaigns **must be carried out together** if possible because of the overlapping steps involved.

For warranty invoicing for campaigns carried out together, the **full scope** must only be invoiced **once** and only the **combined scope** may be invoiced if necessary **for other campaigns carried out together**.
All required steps are included in the working time for the full scope.
All overlapping steps for other campaigns are covered by the combined scope and are therefore not included again in the working time.

If several Porsche Dealers are involved because of the **different service levels** required for carrying out a campaign, the **full scope** must be invoiced for **one of the campaigns carried out together** for **each Porsche Dealer involved**. The **combined scope** must be invoiced for other **campaigns carried out together**.

Affected Vehicles: The VIN(s) can be checked by using PIWIS Vehicle Information link to verify if the campaign affects the vehicle. This campaign is scope specific to the VIN! Failure to verify in PIWIS may result in an improper repair. This campaign affects 50 vehicles in North America.

Parts Info: **NOTE: PARTS WILL NOT BE AUTOMATICALLY ALLOCATED TO YOUR DEALERSHIP. ALL PARTS MUST BE ORDERED VIA A PTEC / PAV.**

Part No.	Designation – Use	Qty.
918.332.857.01	⇒ Bearing cover – Wheel bearing on rear axle	2 ea.
918.332.851.01	⇒ Repair kit for drive shaft bellows – Drive shaft on rear axle	2 ea.
900.123.168.01	⇒ Seal, A10 x 16 – Threaded joint securing drive shaft to wheel hub	6 ea.
999.917.826.02	⇒ Special grease LM 918, 150g tube – Tripod joint on rear axle, inner	2 ea.
999.917.826.03	⇒ Special grease LM 918, 125g tube – Tripod joint on rear axle, outer	4 ea.

The following parts are **also** required **for each vehicle**:

- Vehicles **without** Racetrack package (I-no. 808):

Part No.	Designation – Use		Qty.
000.043.209.96	⇒ Set of fastening parts – Wheel carrier for rear axle		2 ea.
Contains:			
N 102.058.02	Hexagon nut, M6 – Axial bolts securing drive shaft to wheel carrier	1 ea.	
999.084.655.01	Hexagon nut, M12 x 1.5 – Rear-axle steering actuator to wheel carrier – Trailing arm to wheel carrier	3 ea.	
999.084.656.01	Hexagon nut, M10 – Brake calliper to wheel carrier – Spring strut to wheel carrier	3 ea.	
999.311.602.01	Fit bolt, M10 x 1.5 x 65 – Upper trailing arm to wheel carrier	1 ea.	

999.311.504.01	Fit bolt, M10 x 1.5 x 77 – Lower trailing arm to wheel carrier	2 ea.
999.073.572.01	Lens-head screw, M6 x 8 – Brake disc to wheel hub	2 ea.

or

- Vehicles with **Racetrack package (I-no. 808)**:

Part No.	Designation – Use	Qty.
000.043.209.97	⇒ Set of fastening parts for Racetrack package – Wheel carrier for rear axle	2 ea.
Contains:		
N 102.058.02	Hexagon nut, M6 – Axial bolts securing drive shaft to wheel carrier	1 ea.
999.084.655.01	Hexagon nut, M12 x 1.5 – Rear-axle steering actuator to wheel carrier – Trailing arm to wheel carrier	3 ea.
999.084.656.01	Hexagon nut, M10 – Brake calliper to wheel carrier – Spring strut to wheel carrier	3 ea.
999.311.602.02	Fit bolt, M10 x 1.5 x 65 – Upper trailing arm to wheel carrier	1 ea.
999.311.504.02	Fit bolt, M10 x 1.5 x 77 – Lower trailing arm to wheel carrier	2 ea.
999.073.572.01	Lens-head screw, M6 x 8 – Brake disc to wheel hub	2 ea.

The following parts are **also** required for **vehicles with a mileage of 12,000 Miles (20,000 km) or higher** or for **vehicles that have already been driven on a race track**:

- Vehicles **without** Racetrack package (I-no. 808):

Part No.	Designation – Use	Qty.
000.043.210.02	⇒ Complete wheel carrier, left	1 ea.
000.043.210.03	⇒ Complete wheel carrier, right	1 ea.
N 107.512.01	⇒ Hexagon round-head bolt – Cover plates for wheel carriers – Retainer plate for parking-brake shoes – Line bracket for brake hose – Rear speed sensor	20 ea.

or

- Vehicles with **Racetrack package (I-no. 808)**:

Part No.	Designation – Use	Qty.
000.043.210.04	⇒ Complete wheel carrier, left, for Racetrack package	1 ea.
000.043.210.05	⇒ Complete wheel carrier, right, for Racetrack package	1 ea.
N 107.512.01	⇒ Hexagon round-head bolt – Cover plates for wheel carriers – Retainer plate for parking-brake shoes – Line bracket for brake hose – Rear speed sensor	20 ea.

Materials:

Part No.	Designation – Use	Qty.
000.043.300.35	⇒ McLube Sailkote High Performance Dry Lube – Central wheel lock Also commercially available at marine supply stores.	428g spraying can As much as required

Tools:

- **9002 - Lifting platform holders**
- **9453 - Access ramps**
- **9003 - Socket wrench** for central wheel lock
- **9004 - Socket wrench** for central wheel lock cover
- **9023 - Assembly tools** for axial fixing device for drive shaft

- **9036 - Assembly tool** for drive shaft bellows
- **VAS 5493 - Circlip pliers**
- **9691 - Assembly driver** for tripod joints
- **VAS 6941 - Clamping pliers**
- Torque wrench, 150 – 800 Nm (111 – 592 ftlb.), e.g. **V.A.G. 1601 - Torque wrench 150-800 Nm (111-592 ftlb.)**
- Torque wrench, 40 – 200 Nm (30 – 148 ftlb.), e.g. **V.A.G 1332 - Torque wrench, 40-200 Nm (30-148 ftlb.)**
- Torque wrench, 6 – 50 Nm (4.5 – 37 ftlb.), e.g. **V.A.G 1331 - Torque wrench, 6-50 Nm (4.5-37 ftlb.)**
- Torque wrench, 2 – 10 Nm (1.5 – 7.5 ftlb.), e.g. **V.A.G 1783 - Torque wrench, 2-10 Nm (1.5-7.5 ftlb.)**
- **9768 - Electronic torque wrench, 2 - 100 Nm (1.5 - 74 ftlb.)**
- Suitable engine jack, e.g. **VAS 6931 - Transmission and engine jack**
- Test mandrel, 2 mm, e.g. drill bit shank
- Steel rule or caliper gauge, 200 mm long
- Plastic mounting pieces for vice

Also for **vehicles with a mileage of 12,000 miles (20,000 km) or higher** or for **vehicles that have already been driven on a race track**:

- **VAS 6828 - Central fastener with precision aluminum spoiler adapter**
- **VAS 6826 - Steering wheel alignment gauge**
- **9647 - Hook wrench**
- **9818 - PIWIS Tester II**

Work Procedure: See Attachment “A”.

Claim Submission: See Attachment “B”.

Attachment "A": **Work Procedure**

Procedure: 1 **Only** for vehicles with a **mileage of 12,000 miles (20,000 km) or higher** or vehicles that have already been **driven on a race track**:

Measure the vehicle height as well as the camber and toe adjustment values of the rear axle and take note of the measured values ⇒ *Workshop Manual '449503 Suspension alignment, complete'*.
To do this, raise the vehicle on a wheel alignment platform.

Information

The fact that the wheel carriers are mounted on the rear axle without play using Unibal joints means that the **wheel alignment only needs to be checked** if the **wheel carrier modules with wheel bearings are replaced**.

Given the low setpoint value tolerances of the wheel alignment values and the different wheel alignment systems used in the dealer organisation, the wheel alignment values **must be determined first** in this case **before carrying out the campaign**.
After replacing the wheel carrier modules on the rear axle, the wheel alignment positions must be compared with the **wheel alignment values determined beforehand** and may have to be reset to these values. This ensures optimal adjustment of the wheel alignment positions after replacing the wheel carrier modules.

If individual wheel alignment values are **not within the prescribed adjustment tolerance** as a result of bumping into kerbs, for example, the relevant wheel alignment positions must be set to the **wheel alignment values specified in the Workshop Manual** after **replacing** the wheel carrier modules ⇒ *Workshop Manual '4X00IN Adjustment values for suspension alignment'*.
A visual check for damage must also be performed on all relevant chassis components in this case.

2 **All** vehicles:

Raise the vehicle on a lifting platform ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*.

2.1 Position the vehicle between the arms of the lifting platform and push it onto the **9453 - access ramps**.

2.2 Remove underbody covers and fit mounting plates **9002 - Lifting platform holders**, ⇒ *Workshop Manual '518119 Removing and installing jacking points'*.

2.3 Jack and raise the vehicle at the mounting plates.

3 Remove both rear wheels ⇒ *Workshop Manual '440519 Removing and installing wheel'*.

4 Remove lower part of rear spoiler ⇒ *Workshop Manual '66591900 Removing and installing lower part of rear spoiler'*.

5 Remove rear wheel housing liner (front part) at the left and right ⇒ *Workshop Manual '53691901 Removing and installing rear wheel housing liner (front part)'*.

6 Remove rear underbody cover ⇒ *Workshop Manual '519419 Removing and installing rear underbody cover'*.

Information

- **Do not open the brake hydraulic system (brake line remains connected).**

7 Remove rear brake caliper at the left and right ⇒*Workshop Manual '474119 Removing and installing rear brake calliper'*.
Suspend the brake caliper on the vehicle using a tie-wrap, for example.

8 Remove rear PCCB brake disc at the left and right ⇒*Workshop Manual '465419 Removing and installing rear PCCB brake disc'*.

9 Remove rear drive shaft at the left and right.
For instructions, see ⇒*Workshop Manual '422119 Removing and installing rear drive shaft'*. Also note the following **deviations from the Workshop Manual**:

- The servo motor for rear axle steering **must not be removed fully**. Instead, **only loosen and unscrew the fastening nut for the servo motor on the wheel carrier**.
- After loosening the trailing arms, **pull** the wheel carrier module **to the rear** and off the servo motor for rear axle steering.

Replacing bearing covers for wheel bearings on rear axle

- **All** vehicles

Procedure: 1 Replace bearing cover and outer and inner bellows on the **left** drive shaft.

Information

To ensure that the finished assembly is free of dirt and debris, remove all the grease and oil from all the parts involved with an appropriate solvent after disassembly before proceeding. Take great care to assure that all surfaces remain free of dirt and deibris during reassembly. The contact surfaces between the bellows and the drive shaft must be free of grease or oil during assembly.

Information

To ensure that the bellows work correctly, they must be fitted at a **defined position with respect to the tripod joints** on the drive shaft.

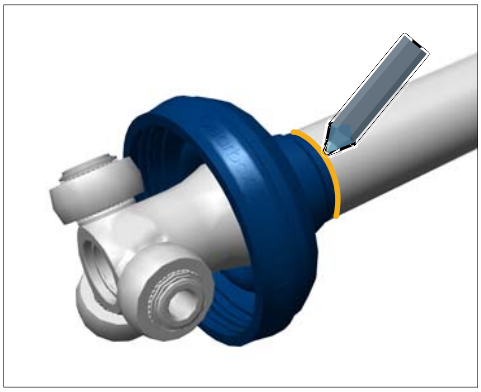
- It is important therefore to **mark** the position of the **inner** bellows (on the transmission side) on the drive shaft **before removal**.
- Due to the **different dimensions of the new bearing cover**, the position of the **outer** bellows (on the wheel side) has changed. For this reason, the **new position** of the

bellows must be **measured** and marked before installing the new bearing cover on the drive shaft.

1.1 Mark the position of the **inner** bellows (on the transmission side) on the drive shaft using a suitable marker ⇒*Marking position of bellows*.

Information

In order to to remove the bearing cover and bellows, it may be necessary to remove one or more sets of roller and needle bearings. To do so, remove the retaining clip first then the roller and needles. Verify all 34 needles are accounted for. Never reassemble the needle bearing with less than 34 needles!



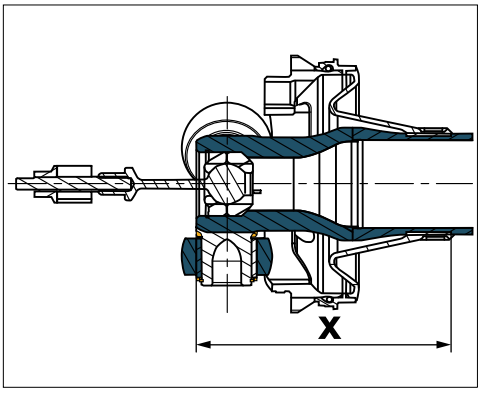
Marking position of bellows

1.2 Remove outer bellows together with the old bearing cover ⇒*Bearing cover for wheel bearing* **-A-** and the inner bellows. For instructions, see ⇒*Workshop Manual '422855 Rear drive shaft: Replacing inner and outer bellows (with wheel bearing cover)'*.

Bearing cover for wheel bearing

1.3 Mark the new position of the **outer** bellows (on the wheel side) on the drive shaft.

To do this, measure **101 mm** ⇒*Position of wheel-side bellows on drive shaft* **-dimension X-** from the end of the drive shaft and mark this position on the drive shaft using a suitable marker.



Position of wheel-side bellows on drive shaft

1.4 Install new stronger bearing cover ⇒*Bearing cover for wheel bearing* **-B-** together with the new inner and outer bellows. For instructions, see ⇒*Workshop Manual '422855 Rear drive shaft: Replacing inner and outer bellows (with wheel bearing cover)'*.

Make sure, in particular, that the inner and outer bellows are positioned correctly in accordance with the markings made earlier.

2 Replace bearing cover and inner and outer bellows on the **right** drive shaft.
To do this, repeat **Steps 1.1 to 1.4** on the **right drive shaft**.

Bearing cover for wheel bearing

Replacing wheel carrier module with wheel bearings on rear axle

- **Only** for vehicles with a **mileage of 12,000 miles (20,000 km / 12,000) or higher** or vehicles that have already been **driven on a race track**.

Procedure:

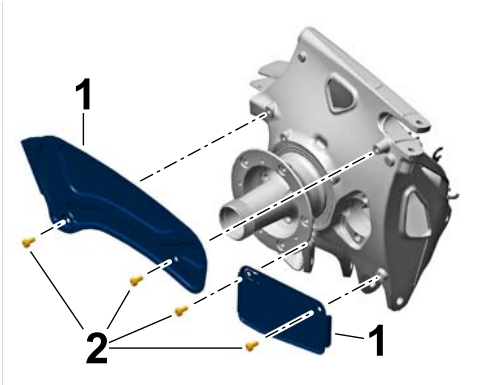
Information

Deformation of the old bearing covers for the wheel bearings puts increased strain on the wheel bearings when the vehicle is driven aggressively.
To ensure that no damaged wheel bearings are left on the vehicle during this campaign, the wheel bearings on vehicles with a mileage of 12,000 (20,000 km) or higher or on vehicles that have already been driven on a race track must also be replaced.

Due to the design-related extra-rigid joint between the lightweight wheel bearing and the wheel carrier, the wheel bearing is only available as part of the wheel carrier module.

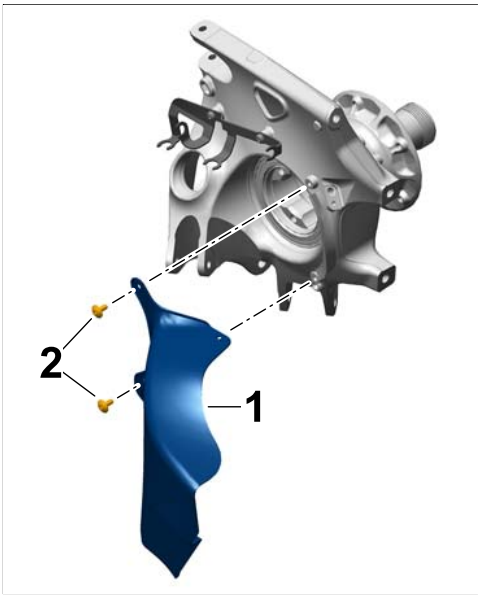
1 Remove heat shields, air guides and line brackets from the left and right wheel carriers you removed earlier.

1.1 Loosen and unscrew fastening screws ⇒ *Removing heat shields* **-2-** on the heat shields ⇒ *Removing heat shields* **-1-**. Remove heat shields from the wheel carrier.



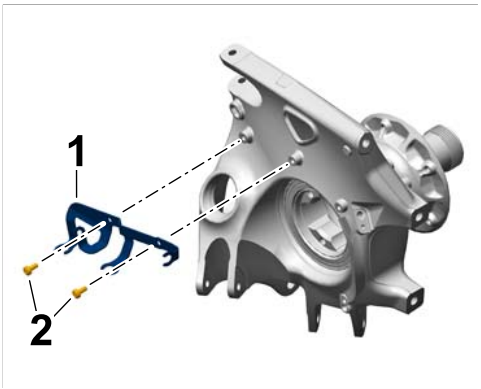
Removing heat shields

1.2 Loosen and unscrew fastening screws ⇒ *Removing air guide* **-2-** on the air guide ⇒ *Removing air guide* **-1-**. Remove air guide from the wheel carrier.



Removing air guide

1.3 Loosen and unscrew fastening screws ⇒ *Removing line bracket* **-2-** on the line bracket ⇒*Removing line bracket* **-1-**. Remove line bracket from the wheel carrier.



Removing line bracket

2 Remove electric parking brake on the left and right wheel carriers you removed earlier and install it on the new wheel carriers.

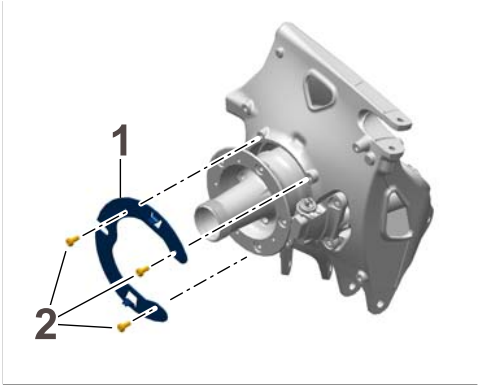
Information

The spreader device (actuator) for the electric parking brake can only be removed and installed when the wheel hub is removed.
However, since the removal and installation of the wheel hub is not possible in the dealer organisation, the new wheel carriers will be supplied with the spreader device (actuator) for the electric parking brake pre-fitted. The old spreader device remains in the previously removed wheel carriers.

2.1 Remove parking-brake shoes for the electric parking brake.
For instructions, see ⇒*Workshop Manual '468355 Replacing parking-brake shoes'*.

2.2 Remove retainer plate ⇒*Retainer plate for parking-brake shoes* **-1-** for the parking-brake shoes from the left and right wheel carriers you removed earlier. To do this, loosen and unscrew the fastening screws ⇒*Retainer plate for parking-brake shoes* **-2-**.

2.3 Position the retainer plate you removed earlier ⇒*Retainer plate for parking-brake shoes* **-1-** on the new wheel carrier. **Screw in and tighten new** fastening screws ⇒*Retainer plate for parking-brake shoes* **-2-**.
Tightening torque 4 Nm (3 ftlb.) +60°

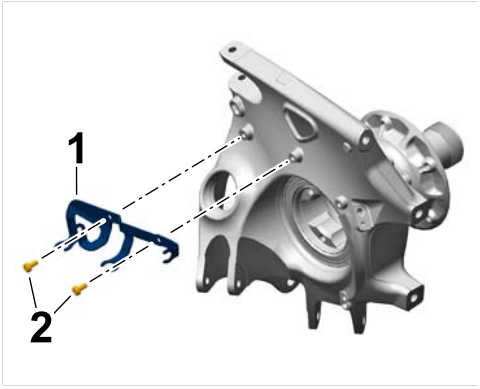


Retainer plate for parking-brake shoes

2.4 Install parking-brake shoes you removed earlier for the electric parking brake.
For instructions, see ⇒*Workshop Manual '468355 Replacing parking-brake shoes'*.

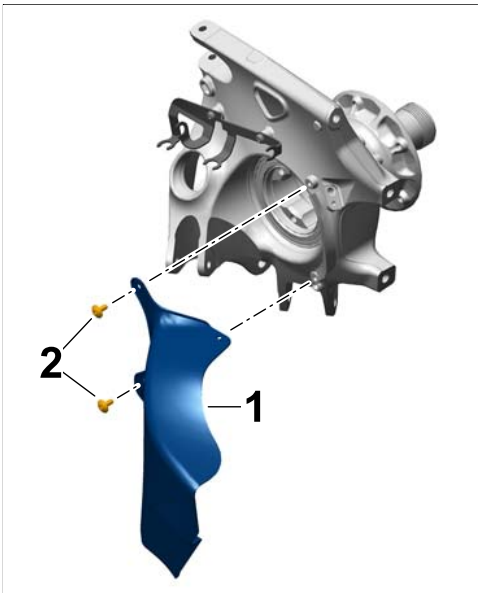
3 Fit heat shields, air guides and line brackets on the new wheel carriers at the left and right.

3.1 Position the line bracket you removed earlier ⇒*Installing line bracket* **-1-** on the new wheel carrier. **Screw in and tighten new** fastening screws ⇒*Installing line bracket* **-2-**.
Tightening torque 4 Nm (3 ftlb.) +60°



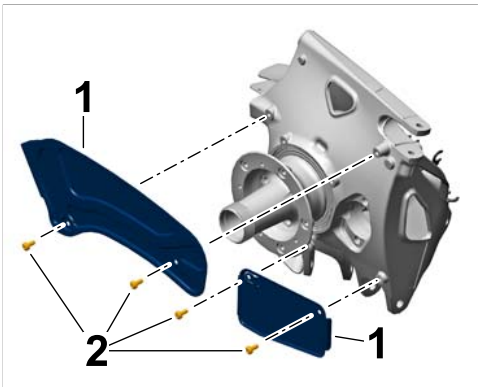
Installing line bracket

3.2 Position the air guide you removed earlier ⇒*Installing air guide* **-1-** on the new wheel carrier. Screw in and tighten fastening screws ⇒*Installing air guide* **-2-**.
Tightening torque 8 Nm (6 ftlb.)



Installing air guide

3.3 Position heat shields ⇒*Installing heat shields* **-1-** on the new wheel carrier. **Screw in and tighten new** fastening screws ⇒*Installing heat shields* **-2-**.
Tightening torque + torque angle 4 Nm (3 ftlb.) +60°



Installing heat shields

4 Install new wheel carrier modules together with the drive shafts you converted earlier on the vehicle. For instructions, see ⇒*Technical Information 'WF0200 Subsequent work'*.

Subsequent work

Procedure: 1 Install rear drive shaft at the left and right
For instructions, see ⇒*Workshop Manual '422119 Removing and installing rear drive shaft'*. Also note the following **deviations from the Workshop Manual**:

- To install the wheel carrier module together with the drive shaft, push the stud on the wheel carrier module forward into the corresponding bearing on the servo motor for rear axle steering.
- After fitting the upper and lower trailing arms on the wheel carrier module, secure the servo motor for rear axle steering to the wheel carrier module using a new fastening nut. **Tightening torque 85 Nm (63 ftlb.)**

2 Install rear PCCB brake disc at the left and right ⇒ *Workshop Manual '465419 Removing and installing rear PCCB brake disc'*.

3 Install rear brake calliper at the left and right ⇒ *Workshop Manual '474119 Removing and installing rear brake calliper'*.

4 Install rear underbody cover ⇒ *Workshop Manual '519419 Removing and installing rear underbody cover'*.

5 Install rear wheel housing liner (front part) at the left and right ⇒ *Workshop Manual '53691901 Removing and installing rear wheel housing liner (front part)'*.

6 Install lower part of rear spoiler ⇒ *Workshop Manual '66591900 Removing and installing lower part of rear spoiler'*.

7 **Only** for vehicles with a **mileage of 12,000 miles (20,000 km) or higher** or vehicles that have already been **driven on a race track**:

Adjust parking-brake shoes for electric parking brake.

7.1 Fit both rear wheels. Only tighten the central wheel nuts hand-tight initially.

7.2 Adjust and calibrate parking-brake shoes ⇒ *Workshop Manual '468316 Adjusting and calibrating parking-brake shoes'*.
To do this, remove the rear wheels again if necessary so that the adjustment device is accessible.

8 Fit both rear wheels ⇒ *Workshop Manual '440519 Removing and installing wheel'*.

9 Lower the vehicle and remove it from the lifting platform ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*.

9.1 Lower the vehicle onto the **9453 - access ramps** with the lifting platform.

9.2 Remove mounting plates **9002 - Lifting platform holders** and install the covers on the underbody ⇒ *Workshop Manual '518119 Removing and installing jacking points'*.

10 **Only** for vehicles with a **mileage of 12,000 miles (20,000 km) or higher** or vehicles that have already been **driven on a race track**:

Measure the vehicle height as well as the camber and toe adjustment values on the rear axle and adjust them to the values determined beforehand if necessary ⇒ *Workshop Manual '449503 Suspension alignment, complete'*
To do this, raise the vehicle on a wheel alignment platform.

Information

The fact that the wheel carriers are mounted on the rear axle without play using Unibal joints means that the **wheel alignment only needs to be checked** if the **wheel carrier modules with wheel bearings are replaced**.

Given the low setpoint value tolerances of the wheel alignment values and the different wheel alignment systems used in the dealer organisation, the wheel alignment positions must therefore be compared with the **wheel alignment values determined beforehand during the initial measurement** and may have to be reset to these values after carrying out the campaign.
This ensures optimal adjustment of the wheel alignment positions after replacing the wheel carrier modules.

If individual wheel alignment values are **not within the prescribed adjustment tolerance** as a result of bumping into kerbs, for example, the relevant wheel alignment positions must be set to the **wheel alignment values specified in the Workshop Manual** after **replacing** the wheel carrier modules ⇒ *Workshop Manual '4X00IN Adjustment values for suspension alignment'*.
A visual check for damage must also be performed on all relevant chassis components in this case.

11 Enter the workshop campaign in the Warranty and Maintenance booklet.

Attachment "B": **Claim Submission** - Workshop Campaign WF02
Warranty claims should be submitted via WWS/PQIS.
Open campaigns may be checked by using either the PIWIS Vehicle Information system or through PQIS Job Creation.
Labor, parts, and sublet will be automatically inserted when Technician is selected in WWS/PQIS. If necessary, the required part numbers will need to be manually entered into warranty system by the dealer administrator.

Service Level: **This campaign must be carried out by a Service Level 2 Porsche Dealer.**

Service Level 0 or 1 Porsche Dealers are **not** authorized to carry out this campaign.
In accordance with the service concept for the 918 Spyder, if the vehicle should require transport from your dealership to a Level 2 Dealer and transportation has not previously been arranged by the 918 Client Relationship Team, you should contact Roadside Assistance at 1 (844) 918-SPYD (7793) to facilitate the transfer.

In this case, Service Level 0 or 1 Porsche Dealers can invoice the cost items listed below for vehicle acceptance, transporting the vehicle and accepting the vehicle following return transport using the **new vehicle warranty** for the vehicle in accordance with the specifications in the 918 Spyder AfterSales Fact Book 2014:

• Vehicle acceptance	100 TU
• Transporting the vehicle	100 TU
• Acceptance of the vehicle following return transport	50 TU

- Costs for transporting the vehicle to and from the Porsche Dealer — Amount as per invoice *

* Please document copy of invoice in PQIS

Please invoice the costs by specifying **Damage code C902 097 000** and enter the technical reason by specifying **Coding C9020 9735** in PQIS. Also specify **Campaign WF02** under Comment.

Service Level 2 Porsche Dealers must always submit an invoice for the relevant **campaign scope**.

Information

The **full scope** must always be invoiced for **warranty invoicing** for **workshop campaign WF02**.

If the vehicle is affected by at least one other campaign (e.g. WF01, WF03 and/or WF04) and this is carried out together with this campaign, only the combined scope may be invoiced for the relevant campaign.

Information

The working times specified below were determined specifically for carrying out this campaign and may differ from the working times published in the Labor Operation List in PIWIS.

The time required for **measuring the vehicle height as well as the camber and toe adjustment values** on the rear axle is **included** in the working times.
All work that must be carried out in order to **adjust the wheel alignment positions** and parts required during the adjustment process are **not** included in the **scope of this campaign** and must be invoiced using a separate warranty claim.

Scope 1: Replacing bearing covers for wheel bearings on the rear axle.
Vehicles with a **mileage of less than 12,000 miles (20,000 km)** that are **not used for race track driving**.

- Vehicles **without** Racetrack package (I-no. 808)

Working time:

Replacing bearing covers for wheel bearings on the rear axle at the left and right	Labor time: **591 TU**
Includes: Raising and lowering the vehicle	
Removing and installing rear wheel at the left and right	
Removing and installing lower part of rear spoiler	
Removing and installing rear underbody cover	
Loosening and securing rear brake calliper at the left and right	
Removing and installing rear PCCB brake disc at the left and right	

Loosening and securing servo motor for rear axle steering at the left and right
Removing and installing rear drive shaft at the left and right
Replacing inner and outer bellows for rear drive shaft at the left and right

Parts required:

918.332.857.01	Bearing cover for wheel bearing on rear axle	2 ea.
918.332.851.01	Repair kit for drive shaft bellows on rear axle	2 ea.
000.043.209.96	Set of fastening parts, left/right	2 ea.
900.123.168.01	Seal, A10 x 16	6 ea.
999.917.826.02	Special grease LM 918, 150g tube	2 ea.
999.917.826.03	Special grease LM 918, 125g tube	4 ea.

Additional materials required:

000.043.300.35	McLube Sailkote High Performance Dry Lube, 428g spraying can Also commercially available at marine supply stores.	0.05 ea.

⇒ **Damage code WF02 066 000 2**

Scope 2: Replacing bearing covers for wheel bearings on the rear axle.
Vehicles with a **mileage of less than 12,000 miles (20,000 km)** that are **not used for race track driving**.

- Vehicles with **Racetrack package (I-no. 808)**

Working time:

Replacing bearing covers for wheel bearings on the rear axle at the left and right — Labor time: **591 TU**

Includes:
Raising and lowering the vehicle
Removing and installing rear wheel at the left and right
Removing and installing lower part of rear spoiler
Removing and installing rear underbody cover
Loosening and securing rear brake caliper at the left and right
Removing and installing rear PCCB brake disc at the left and right
Loosening and securing servo motor for rear axle steering at the left and right

Removing and installing rear drive shaft at the left and right
Replacing inner and outer bellows for rear drive shaft at the left and right

Parts required:

918.332.857.01	Bearing cover for wheel bearing on rear axle	2 ea.
918.332.851.01	Repair kit for drive shaft bellows on rear axle	2 ea.
000.043.209.97	Set of fastening parts for Racetrack package, left/right	2 ea.
900.123.168.01	Seal, A10 x 16	6 ea.
999.917.826.02	Special grease LM 918, 150g tube	2 ea.
999.917.826.03	Special grease LM 918, 125g tube	4 ea.

Additional materials required:

000.043.300.35	McLube Sailkote High Performance Dry Lube, 428g spraying can Also commercially available at marine supply stores.	0.05 ea.

⇒ **Damage code WF02 066 000 2**

Scope 3: Replacing bearing covers for wheel bearings **and** wheel carrier module with wheel bearings on the rear axle.
Vehicles with a **mileage of 12,000 miles (20,000 km) or higher** or vehicles that have already been **driven on a race track**.

- Vehicles **without** Racetrack package (I-no. 808)

Working time:

Replacing bearing covers for wheel bearings and wheel carrier module with wheel bearings on the rear axle. Labor time: **1076 TU**

Includes:
Raising and lowering the vehicle
Removing and installing rear wheel at the left and right
Removing and installing lower part of rear spoiler
Removing and installing rear underbody cover
Loosening and securing rear brake caliper at the left and right
Removing and installing rear PCCB brake disc at the left and right
Loosening and securing servo motor for rear axle steering at the left and right

Removing and installing rear drive shaft at the left and right
Replacing inner and outer bellows for rear drive shaft at the left and right
Removing and installing heat shields at the left and right
Removing and installing air guide at the left and right
Removing and installing line bracket at the left and right
Removing and installing parking-brake shoes at the left and right
Removing and installing retainer plate for parking-brake shoes at the left and right
Adjusting and calibrating parking-brake shoes
Measuring vehicle height and camber and toe adjustment values on the rear axle (2x)

Parts required:

918.332.857.01	Bearing cover for wheel bearing on rear axle	2 ea.
000.043.210.02	Complete wheel carrier, left	1 ea.
000.043.210.03	Complete wheel carrier, right	1 ea.
918.332.851.01	Repair kit for drive shaft bellows on rear axle	2 ea.
000.043.209.96	Set of fastening parts, left/right	2 ea.
900.123.168.01	Seal, A10 x 16	6 ea.
N 107.512.01	Hexagon round-head bolt	20 ea.
999.917.826.02	Special grease LM 918, 150g tube	2 ea.
999.917.826.03	Special grease LM 918, 125g tube	4 ea.

Additional materials required:

000.043.300.35	McLube Sailkote High Performance Dry Lube, 428g spraying can Also commercially available at marine supply stores.	0.05 ea.

⇒ **Damage code WF02 066 000 2**

Scope 4: Replacing bearing covers for wheel bearings **and** wheel carrier module with wheel bearings on the rear axle.
Vehicles with a **mileage of 12,000 miles (20,000 km) or higher** or vehicles that have already been **driven on a race track**.

- Vehicles with **Racetrack package (I-no. 808)**

Working time:

Replacing bearing covers for wheel bearings and wheel carrier module with wheel bearings on the rear axle. Labor time: **1076 TU**

Includes:
- Raising and lowering the vehicle
- Removing and installing rear wheel at the left and right
- Removing and installing lower part of rear spoiler
- Removing and installing rear underbody cover
- Loosening and securing rear brake caliper at the left and right
- Removing and installing rear PCCB brake disc at the left and right
- Loosening and securing servo motor for rear axle steering at the left and right
- Removing and installing rear drive shaft at the left and right
- Replacing inner and outer bellows for rear drive shaft at the left and right
- Removing and installing heat shields at the left and right
- Removing and installing air guide at the left and right
- Removing and installing line bracket at the left and right
- Removing and installing parking-brake shoes at the left and right
- Removing and installing retainer plate for parking-brake shoes at the left and right
- Adjusting and calibrating parking-brake shoes
- Measuring vehicle height and camber and toe adjustment values on the rear axle (2x)

Parts required:

918.332.857.01	Bearing cover for wheel bearing on rear axle	2 ea.
000.043.210.04	Complete wheel carrier, Racetrack package, left	1 ea.
000.043.210.05	Complete wheel carrier, Racetrack package, right	1 ea.
918.332.851.01	Repair kit for drive shaft bellows on rear axle	2 ea.
000.043.209.97	Set of fastening parts for Racetrack package, left/right	2 ea.
900.123.168.01	Seal, A10 x 16	6 ea.
N 107.512.01	Hexagon round-head bolt	20 ea.
999.917.826.02	Special grease LM 918, 150g tube	2 ea.
999.917.826.03	Special grease LM 918, 125g tube	4 ea.

Additional materials required:

000.043.300.35	McLube Sailkote High Performance Dry Lube, 428g spraying can Also commercially available at marine supply stores.	0.05 ea.

⇒ **Damage code WF02 066 000 2**

References:

⇒ *Workshop Manual '4X00IN Lifting the vehicle'*
⇒ *Workshop Manual '4X00IN Tightening torques for rear axle'*
⇒ *Workshop Manual '4X00IN Adjustment values for suspension alignment'*
⇒ *Workshop Manual '422119 Removing and installing rear drive shaft'*
⇒ *Workshop Manual '422855 Rear drive shaft: Replacing inner and outer bellows (with wheel bearing cover)'*
⇒ *Workshop Manual '440519 Removing and installing wheel'*
⇒ *Workshop Manual '465419 Removing and installing rear PCCB brake disc'*
⇒ *Workshop Manual '468316 Adjusting and calibrating parking-brake shoes'*
⇒ *Workshop Manual '468355 Replacing parking-brake shoes'*
⇒ *Workshop Manual '474119 Removing and installing rear brake calliper'*
⇒ *Workshop Manual '518119 Removing and installing jacking points'*
⇒ *Workshop Manual '519419 Removing and installing rear underbody cover'*
⇒ *Workshop Manual '53691901 Removing and installing rear wheel housing liner (front part)'*
⇒ *Workshop Manual '66591900 Removing and installing lower part of rear spoiler'*

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